



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/017,681	12/14/2001	Young C. Ko	KCC-17,441	9561
35844	7590	09/17/2004	EXAMINER	
PAULEY PETERSEN & ERICKSON 2800 WEST HIGGINS ROAD HOFFMAN ESTATES, IL 60195				YAO, SAMCHUAN CUA
ART UNIT		PAPER NUMBER		
1733				

DATE MAILED: 09/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Interview Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/017,681	KO ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Sam Chuan C. Yao	1733	

All participants (applicant, applicant's representative, PTO personnel):

(1) Sam Chuan C. Yao. (3) \_\_\_\_\_

(2) Mr. Maxwell Patersen. (4) \_\_\_\_\_

Date of Interview: 13 September 2004.

Type: a) Telephonic b) Video Conference  
c) Personal [copy given to: 1) applicant 2) applicant's representative]

Exhibit shown or demonstration conducted: d) Yes e) No.

If Yes, brief description: \_\_\_\_\_.

Claim(s) discussed: N/A.

Identification of prior art discussed: N.A.

Agreement with respect to the claims f) was reached. g) was not reached. h) N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: Informed Counsel that, Examiner is mailing a copy of a corrected version of a prior office action to correct the typographical errors. Examiner further informed Counsel that, the time for response continue to run from the mailing date of a prior office action. Corrected version of the office action is attached.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN ONE MONTH FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

Examiner Note: You must sign this form unless it is an attachment to a signed Office action.

\_\_\_\_\_  
Examiner's signature, if required

## Summary of Record of Interview Requirements

### Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record

A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

### Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews

#### Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

#### 37 CFR §1.2 Business to be transacted in writing.

All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:

- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:

- 1) A brief description of the nature of any exhibit shown or any demonstration conducted,
- 2) an identification of the claims discussed,
- 3) an identification of the specific prior art discussed,
- 4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
- 5) a brief identification of the general thrust of the principal arguments presented to the examiner,  
(The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
- 6) a general indication of any other pertinent matters discussed, and
- 7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

### Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102/103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-8, 11-12, and 14-27 are rejected ~~under 35 U.S.C. 102(b) as anticipated by or, in the alternative,~~ under 35 U.S.C. 103(a) as obvious over Itoh et al (US 4,892,754) in view of Trokhan et al (US 5,547,747) and Anderson et al (US 6,103,061).

With respect to claims 1, 7-8, 11-12, 14-15 and 24, Itoh et al teaches a process for making an absorbent web, the process comprises:

- a) providing a 1<sup>st</sup> super-absorbent polymer precursor composition including a monomer (col. 4 line 55 to col. 5 line 43);
- b) providing a 2<sup>nd</sup> super-absorbent polymer precursor composition including a water soluble radical polymerization initiator (col. 5 lines 44-51);
- c) providing a prefabricated fibrous web including natural cellulosic fibers and/or (polyester fibers or other thermoplastic fibers) (col. 5 line 64 to col. 6 line 5);
- d) separately and sequentially (i.e. two different stages) applying the 1<sup>st</sup> and 2<sup>nd</sup> super-absorbent polymer precursor compositions to the fibrous web, wherein the precursor compositions come into contact with each other (col. 6 lines 49-59; col. 6 lines 33-46; example 2); and,

e) chemically reacting the 1<sup>st</sup> and 2<sup>nd</sup> super-absorbent polymer precursor compositions in or on the fibrous web (col. 7 lines 7-29).

In light of the following passage (for example), "... a [1<sup>st</sup>] method wherein a radical polymerization initiator is applied uniformly in the form of a separate solution from the aqueous monomer to the fibrous substrate, to which the aqueous monomer has previously been applied, by spraying or the like and is decomposed on the fibrous substrate and a [2<sup>nd</sup>] method wherein a radical polymerization initiator is applied uniformly in the form of a separate solution from the aqueous monomer to the fibrous substrate, and then the aqueous monomer is uniformly applied thereto, by spraying, coating or the like" (bold face, emphasis and words added; col. 6 lines 49-59); and, in view that, Itoh et al also teaches "the aqueous monomer is uniformly applied thereto, by spraying" (emphasis added; col. 6 lines 57-59) in the 2<sup>nd</sup> method, and further teaches applying a 2<sup>nd</sup> superabsorbent precursor composition in a form of a mist (column 8 lines 41-46), it is taken that, the teachings of Itoh et al envisions sequentially spraying 1<sup>st</sup> and 2<sup>nd</sup> superabsorbent precursor compositions to a preformed fibrous web. In any event, it would have been obvious in the art to use a spraying method in a sequential application of 1<sup>st</sup> and 2<sup>nd</sup> superabsorbent precursor compositions to a preformed fibrous web, because: a) there are only three conventional methods (impregnating, spraying, and coating) for applying these compositions suggested by Itoh et al (col. 6 lines 9-59); b) it is conventional in the art to impregnate or coat a fibrous substrate with a polymeric composition by spraying; and, c) Ito et al

also teaches sequentially applying a 1<sup>st</sup> superabsorbent precursor composition and a 2<sup>nd</sup> superabsorbent precursor composition to a fibrous substrate wherein the 2<sup>nd</sup> superabsorbent precursor composition is in form of a mist (col. 8 lines 41-46). ~~For these reasons, the application of 1<sup>st</sup> and 2<sup>nd</sup> superabsorbent precursor compositions using a non-contact application process is either anticipated by or obvious over the teachings of~~ Itoh et al does not teach using a non-contact printing process for adding a 1<sup>st</sup> superabsorbent polymer precursor composition to a fibrous web. However, since: a) Trokhan et al teaches the difficulty of spraying a superabsorbent material to a fiber web in a precise pattern and suggest using a printing method to precisely apply a superabsorbent material to a fiber web (col. 1 line 21 to col. 2 line 23); and b) it is a common knowledge in the art to apply a coating/impregnating liquid composition to an absorbent fibrous web using patterned spraying systems such as a ink jet-printing technique or a spray-printing technique as exemplified in the teachings of ~~either Wisneski et al (col. 11 lines 5-15) or~~ Anderson et al (col. 1 lines 7-11; col. 12 line 66 to col. 13 line 38), it would have been obvious in the art to add a 1<sup>st</sup> superabsorbent polymer precursor composition to a fibrous web using a patterned spraying system such as an ink jet-printing technique. For the same reason as a 1<sup>st</sup> superabsorbent polymer precursor composition application (not presently recited in claims 1 and 15), it would have been obvious in the art to add a 2<sup>nd</sup> superabsorbent polymer precursor composition to a fibrous web using a patterned spraying system such as an ink jet-printing technique.

As for the recited characteristics (i.e. "*a superabsorbent polymer consisting essentially of particles which stick to fiber surface and are spaced apart by an average distance of 50-4000 microns*") of a resultant absorbent web, in light of the similarity of the production processes (i.e. using a jet ink printing technique to apply superabsorbent polymer precursor compositions), the recited characteristics are taken to naturally flow from a process taught by Itoh et al, where a ink jet printing technique is used to add 1<sup>st</sup> and 2<sup>nd</sup> superabsorbent polymer precursor compositions. In any event, such would have been obvious in the art, since it is conventional in the art to apply superabsorbent particles to a fiber web such that, the particles stick to fibers in the web and are substantially spaced apart from one another and since one in the art would have determined, by routine experimentation, an optimal SAP concentration being applied to a fiber web for a desired end-use of a resultant absorbent article. Average distance between SAP clearly also depends on an amount of SAP which is applied to a fiber web for a given surface area of the fiber web. Note that, Itoh et al teaches preferably ranges from 10-1000 parts by weight of monomers per 100 part by weight of a fibrous substrate (col. 7 lines 59-67). For a relatively low amount of monomers which are applied to a fibrous substrate, SAP is reasonably expected to be spaced apart from each other at an average distance which falls around the recited average distance range recited in the independent claims.

Note: Where ... the claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes, the PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his claimed product.

**Whether the rejection is based on “inherency” under 35 USC § 102, on prima facie obviousness” under 35 USC § 103, jointly or alternatively, the burden of proof is the same, and its fairness is evidenced by the PTO’s inability to manufacture products or to obtain and compare prior art products.” In re Best, 562 F2d 1252, 1255, 195 USPQ 430, 433-4 (CCPA 1977).**

With respect to claims 2-3, sprayed mists generally have a diameter range that fall within or overlap with the range recited in these claims.

With respect to claims 4-6, the recited viscosity range is conventional in the art.

One in the art would have determined, by routine experimentation, a workable viscosity range in order to effectively impregnate a fiber web with superabsorbent compositions. It is worth noting that, Anderson et al teaches using a “viscosity modifier … if the viscosity of the printing composition is not suitable for the method of printing desired.” (col. 14 lines 15-22).

With respect to claim 16, the recited compositions of a non-woven web in these claims read on using 100% by weight absorbent fibers such as wood pulp, cotton, etc. (col. 5 lines 64-68).

With respect to claim 17, since the recited composition range in a pre-formed non-woven web is conventional/notoriously well known in the art, this claim would have been obvious in the art.

With respect to claims 18-19, it is conventional/notoriously well known in the art to form thermoplastic fibers by either melt-blown or spun-bonding process.

With respect to claim 20, see column 4 line 56 to column 5 line 21.

With respect to claims 21-23, the recited amount of SAP in these claims is conventional in the art.

With respect to claim 25, see column 7 lines 26-36.

With respect to claims 26-27, see column 4 line 56 to column 5 line 21.

***Response to Arguments***

3. Applicant's arguments filed 05-17-04 have been fully considered but they are not persuasive.

On pages 9-11, Counsel argues that Itoh et al does not teach using a non-contact printing process to apply a superabsorbent polymer precursor composition to an absorbent fiber web. Moreover, Counsel suggested the advantages of using a non-contact printing technique over conventional methods such as impregnating, spraying, and coating for applying compositions suggested by Itoh et al. Examiner agrees with Counsel that Itoh et al does not teach using a non-contact printing process to apply a superabsorbent polymer precursor composition to an absorbent fiber web. However, the rejection of pending claims is not based solely on the Itoh et al patent. The collective teachings of applied references would have suggested to one in the art to apply to apply a superabsorbent polymer precursor compositions to an absorbent fiber web in a process taught by Itoh et al, because (as noted above): a) Trokhan et al teaches the difficulty of spraying a superabsorbent material to a fiber web in a precise pattern and suggest using a printing method to precisely apply a superabsorbent material to a fiber web (col. 1 line 21 to col. 2 line 23); and b) it is a common knowledge in the art to apply a coating/impregnating liquid composition at a "*preselected pattern*" to an absorbent fibrous web using

patterned spraying systems such as a ink jet-printing technique or a spray-printing technique as exemplified in the teachings of Anderson et al (col. 1 lines 7-11; col. 12 line 66 to col. 13 line 38; col. 14 lines 15-22 & 38-65).

On page 10 full paragraph 1, Counsel requested for examiner to make an office action non-final, *“because these claims [1-3, 7-9 and 11-14] have not yet been formally rejected.”* (terms inserted). Claims 1, 7-9 and 11-14 are substantially a mere repetition of claim 24. The repeated limitations have already been addressed on page 2 to page 4 line 8. The limitations (i.e. *“particles which stick to surfaces of fibers at a distance from each other, thereby forming the absorbent core material”*) in these claims, which are not recited in claim 24, are fully addressed on page 4. The limitations of particles being distance from each other are precisely the reason why Examiner intentionally rejected claims 1,7-9 and 11-14 on page 4 and rejected claim 24 first on page 2. Examiner, however, agrees with Counsel that, these claims were inadvertently left out in a heading in numbered paragraph 3. However, Counsel should/would have reasonably recognized and understood that, these claims are intended to be rejected for reasons set forth above. It should further be noted that, it is clearly indicated in form PTOL-326 line number 6 that, *“Claim(s) 1-27 is/are rejected.”*. If there was any confusion whether these claims were intended to be formally rejected, Counsel should have called the Examiner to clarify the office action. Examiner would have gladly added an extra month (reset the time) for counsel to response. In any event, to please Counsel, this office action is made non-final.

As for Counsel's arguments on page 12 last paragraph regarding the use of polyester fibers in the examples of Itoh et al, as correctly noted by Counsel, Itoh et al also teaches using an absorbent fibrous material (col. 5 lines 53-67).

Counsel is herein apprised that a reference is not confined to the disclosed working examples. A proper evaluation of the reference must includes a determination of what the reference reasonably conveyed to one having ordinary skill in the art. It is respectfully submitted that, the teachings of Itoh et al would have reasonably suggested to one in the art not only to use polyester fibers, but also a wide range of fibrous materials such as wood pulp (col. 5 lines 64-67).

As for Counsel's arguments on page 13 full paragraph 1 regarding the amount of monomer applied to a nonwoven fabric in examples 1-17 of Itoh et al, once again the teachings of Itoh et al is not limited to examples disclosed in the reference. A proper evaluation of a reference is, what the reference taken as a whole would have suggested to one in the art. Counsel's attention is directed to column 7 lines 59-66 of the Itoh et al patent, where it discloses preferably applying around 10-1000 parts by weight of monomer for every 100 parts by weight of a fibrous web.

As noted above, in light of the similarity of the production processes (i.e. using a jet ink printing technique to apply superabsorbent polymer precursor compositions), the recited characteristics are taken to naturally flow from a process taught by Itoh et al, where a ink jet printing technique is used to add 1<sup>st</sup> and 2<sup>nd</sup> superabsorbent polymer precursor compositions. In any event, such would have been obvious in the art, since it is conventional in the art to apply

superabsorbent particles to a fiber web such that, the particles stick to fibers in the web and are substantially spaced apart from one another and since one in the art would have determined, by routine experimentation, an optimal SAP concentration being applied to a fiber web for a desired end-use of a resultant absorbent article. Average distance between SAP clearly depends on an amount of SAP which is applied to a fiber web for a given surface area of the fiber web.

As for Counsel's argument on 15 regarding the Anderson et al patent, Examiner agrees with Counsel that Anderson et al does not teach using a jet-ink printing device for applying SAP precursor composition to a fibrous substrate. However, it is respectfully submitted that, the Anderson patent as a whole would have suggested to one in the art to use a jet-ink printing device to apply a SAP precursor composition in a preselected pattern to a fibrous substrate. The teachings of the Anderson patent would have suggested to one in the art that a jet ink printing device can effectively be used to apply various liquid compositions (i.e. **not limited to applying ink**) to a substrate at a desired preselected pattern.

As for Counsel's argument on page 16 regarding claim 10, by a simple application of common sense, Counsel would/should have understood that this claim is intended to be rejected. The limitation in this claim is identical to a limitation recited in claim 15. Claim 15 was rejected in a prior office action. Note once again, it is clearly indicated in form PTOL-326 line number 6 that, "*Claim(s) 1-27 is/are rejected.*" In any event, such is moot because a request to make this office action non-final is granted.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Chuan C. Yao whose telephone number is (571) 272-1224. The examiner can normally be reached on Monday-Friday with second Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Sam Chuan C. Yao  
Primary Examiner  
Art Unit 1733

Scy  
07-09-04